System	Series	Formation or Group	Approximate thickness (feet)	Physical character	Hydrologic Comments
Quaternary	Recent		0-200	Alluvial deposits consisting of silts, clays, sands, and gravels. Prominent in Missouri and bordering major streams in Tennessee and Kentucky.	In many places permeable sands and gravels underlie surface clays. Represents the near-surface aquifer.
----------	Pleistocene and Pliocene		0-150	Loess and scattered sand and gravel deposits.	Loess does not yield water. Sand and gravel lies above water table in some places and below water table in others.
Tertiary		Jackson group	0-200	Clays and fine sands. Lies near land surface in central part of area.	Relatively impermeable. Mississippi River is entrenched in these deposits or lies above them, resulting in slow artesian discharge.
	Eocene	Claiborne group	0-800	Fine, medium, and coarse sands interlayered with clays. Some carbonaceous clays.	Excellent aquifer. Coarse sands in upper part are known as the "500-foot" sand in Memphis area.
		Wilcox group	0-800	Zones of predominantly clay and predominantly sand. Lignite common.	Sand beds represent good aquifer. Known as the "1,400-foot" sand in the Memphis area. Water is low in dissolved mineral matter.
	Paleocene	Midway group	0-400	Porters Creek clay is widespread. Dark gray to black massive and shaly clays. Thin limestone beds of Clayton formation near base of Tertiary.	Beds are relatively impermeable, acting to separate Tertiary from underlying Cretaceous water.
Cretaceous	Upper Cretaceous	Selma group (includes Ripley formation and underlying Selma clay and chalk)	0-800	McNairy sand member of Ripley formation contains medium sand. Most of material underlying McNairy sand is clay or chalky clay.	McNairy sand is a widespread aquifer. Selma clay and chalk are impermeable.
		Eutaw formation	0-100	Clay interbedded with fine sands. Confined to southwest Tennessee.	Sandy beds yield some water in the Cretaceous outcrop area of Tennessee. Water is probably mineralized below 2000 feet in southern Tennessee.
Sedimentary rocks of Paleozoic age					

Table 17. GENERALIZED DESCRIPTION OF FORMATIONS AND THEIR HYDROLOGIC CHARACTERISTICS IN TENNESSEE, KENTUCKY, AND MISSOURI